1: Eur J Pharmacol. 2000 Sep 8;403(3):181-8.
ELSEVIER FULL-TEXT ARTICLE

Taurine attenuates hypertrophy induced by angiotensin II in cultured neonatal rat cardiac myocytes.

Azuma M, Takahashi K, Fukuda T, Ohyabu Y, Yamamoto I, Kim S, Iwao H, Schaffer SW, Azuma J.

Department of Clinical Evaluation of Medicines and Therapeutics, Graduate School of Pharmaceutical Sciences, Osaka University, Osaka 565,-0871, Suita, Japan.

The effect of taurine on angiotensin II-induced changes in cell morphology and biochemistry of the cultured neonatal cardiomyocyte was examined. Angiotensin II (1-100 nM) alone caused a slow increase in the surface area of the myocyte accompanied by an induction of the expression of atrial natriuretic peptide (ANP) and an upregulation of transforming growth factor beta(1) gene (TGF-beta(1)). The signaling pathway of angiotensin II (1-100 nM) was found to proceed through protein kinase C and the rapid activation of mitogen-activated protein (MAP) kinases. Pretreatment of the myocyte with taurine (20 mM) in the absence of angiotensin II had no visible effect on cell size or growth rate. However, the cells that were pretreated with taurine (20 mM) for 24 h exhibited reduced responsiveness to angiotensin II (100 nM) relative to surface cell area enlargement and the upregulation of the late and growth factor genes(ANP, TGF-beta(1)). Angiotensin II-mediated activation of the MAP kinases (extracellular signal-regulated protein kinase 1/2: ERK1/2) was not blocked by taurine. Taurine reduced the phosphorylation of a 29-kDa protein, a reaction which was enhanced by angiotensin II and appears to involve protein kinase C step. The results indicate that taurine is an effective inhibitor of certain aspects of angiotensin II action.

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